CLAIMS:

1 1. A computer system comprising:
2   a host computer having a CPU;
3   a mass data storage device associated with said host computer;
4   at least some ECC hardware associated with said mass data
5 storage device;
6   and a device driver comprising software instructions for
7 execution by said CPU for performing at least some ECC instructions
8 on data read from said mass data storage device.

1 2. The computer system of claim 1 wherein said mass data storage
2 device is a hard disk drive assembly.

1 3. The computer system of claim 1 wherein said host computer
2 further comprises a RAM and wherein said at least some ECC
3 instructions are performed upon read data contained in said RAM.

1 4. The computer system of claim 1 wherein said at least some ECC
2 hardware associated with said mass data storage device includes
3 hardware to generate data integrity determination information when
4 a block of data is written to said mass data storage device.

1 5. The computer system of claim 1 wherein said at least some ECC
2 hardware associated with said mass data storage device includes
3 hardware to generate an error flag if an error is detected in said
4 data read from said mass data storage device.
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1 6. The computer system of claim 5 wherein said software
2 instructions for execution by said CPU perform data correction on
3 data read from said mass data storage device using said ECC code
4 when said error flag has been generated.

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7. A computer system comprising:

a mass data storage device containing a data medium and having associated ECC circuitry for generating an error flag indication of the occurrence of an error in data read from said data medium;

and a host computer having at least a RAM, a CPU, and a facility for executing ECC instructions by said CPU;

wherein execution of said ECC instructions corrects in said RAM data read from said medium according to said ECC codes when said error flag has been generated.

8. The computer system of claim 7 wherein said ECC instructions are software instructions of a device driver.

9. The computer system of claim 7 wherein said ECC instructions are software instructions of a system BIOS.

10. The computer system of claim 7 wherein said ECC instructions are software instructions of an expansion BIOS.

11. The computer system of claim 7 wherein said ECC instructions are software instructions of a device driver extension.

12. The computer system of claim 7 wherein said ECC circuitry determines the presence of an error in said read data from data integrity determination information previously generated from said read data.

13. A method for operating a computer system having a host computer and an associated mass storage device, comprising:

reading data from said mass storage device, said data having been previously processed to include an ECC code to facilitate subsequent error detection and correction;

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6   detecting an error in the read data in hardware on said mass
7   storage device using said ECC code, generating an error flag
8   identifying the error using the ECC code;
9   transferring said read data and said error flag from said mass
10 storage device to a memory in the host computer;
11   and correcting said error under control of a CPU of said host
12 computer.

1   14. The method of claim 13 wherein said transferring includes
2   transferring error location information.

1   15. The method of claim 13 wherein said correcting said error
2   comprises executing software instructions of a device driver by
3   said CPU.

1   16. The method of claim 13 wherein said correcting said error
2   comprises executing software instructions of a device driver
3   extension.

1   17. The method of claim 13 wherein said correcting said error
2   comprises executing software instructions of a system BIOS.

1   18. The method of claim 13 wherein said correcting said error
2   comprises executing software instructions of an expansion BIOS.

1   19. The method of claim 13 further comprising generating an ECC
2   code to facilitate subsequent error correction with hardware in
3   said mass data storage device.

1   20. A method for performing error correction in a computer system
2   having a host computer and an associated mass storage device,
3   comprising:

4   reading from said mass storage device data which has been
5   previously processed to include an ECC code to facilitate
6   subsequent error detection and correction;

7   detecting an error in the read data in hardware on said mass
8   storage device using said ECC code, generating an error flag
9   identifying the error using the ECC code;

10   transferring said read data, said error flag, and said
11 location code from said mass storage device to a memory in the host
12 computer;

13   and correcting said error under control of a CPU of said host
14 computer.
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1   21. The method of claim 20 wherein said transferring includes
2   transferring error location information.

1   22. The method of claim 20 wherein said correcting said error
2   comprises executing software instructions of a device driver by
3   said CPU. .

1   23. The method of claim 20 wherein said correcting said error
2   comprises executing software instructions of a device driver
3   extension by said CPU.

1   24. The method of claim 20 wherein said correcting said error
2   comprises executing software instructions of a system BIOS by said
3   CPU.

1   25. The method of claim 20 wherein said correcting said error
2   comprises executing software instructions of a system BIOS
3   expansion by said CPU.

1   26. The method of claim 20 wherein said drivers are contained on
2   the media of the mass data storage device and the software executed
3   by the host CPU.